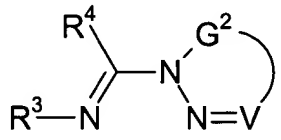
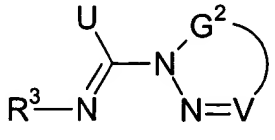
Amendments to the Claims

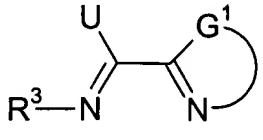
1. (Currently amended) A batch or continuous process for the polymerization of olefins, comprising contacting one or more monomers selected from compounds of the formula $RCH=CHR^1$ with a Group 8-10 transition metal complex of a ligand of the formula **VI**, **XII**, **IX**, **XIII**, ~~**XIV**~~, **XV**, or **XXII** and optionally a Bronsted or Lewis acid,



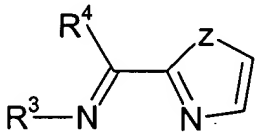
VI



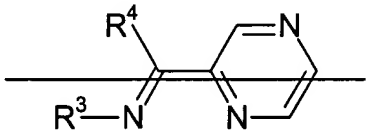
XII



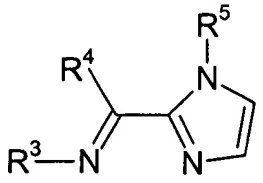
IX



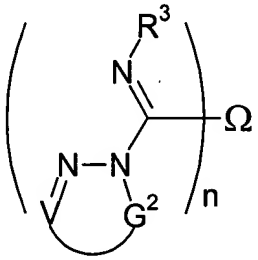
XIII



~~**XIV**~~



XV



XXII

wherein R and R^1 are independently H, hydrocarbyl, fluoroalkyl, or R and R^1 may be linked to form a cyclic olefin;

R^3 is hydrocarbyl or substituted hydrocarbyl;

R^4 is H, hydrocarbyl, substituted hydrocarbyl, or silyl;

R^5 is hydrocarbyl or substituted hydrocarbyl;

Z is O or S;

U is $-OR^{10}$, $-SR^{10}$, $-SeR^{10}$ or $-NR^{10}R^8$, wherein R^{10} and R^8 are each independently selected from H, hydrocarbyl, substituted hydrocarbyl, or silyl, and in addition R^{10} and R^8 may collectively form a ring with nitrogen;

G^1 is hydrocarbyl or substituted hydrocarbyl and may comprise a carbocyclic or heterocyclic ring, thereby forming a 5-membered or 6-membered heterocyclic ring comprising G^1, C, and N;

G^2 is hydrocarbyl or substituted hydrocarbyl and may comprise a carbocyclic or heterocyclic ring, thereby forming a 5-membered or 6-membered heterocyclic ring comprising G^2, V, N, and N;

V is $-CR^6$, N, or $-PR^6R^9$; wherein, R^6 and R^9 are each independently selected from H, hydrocarbyl, substituted hydrocarbyl, silyl or heteroatom connected hydrocarbyl, and in addition, R^6 and R^9 may collectively form a ring with phosphorus;

Ω is hydrocarbyl or substituted hydrocarbyl; and,

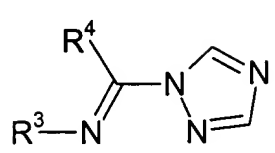
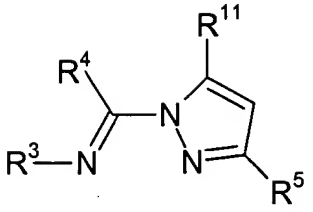
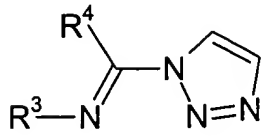
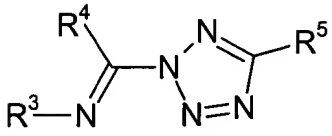
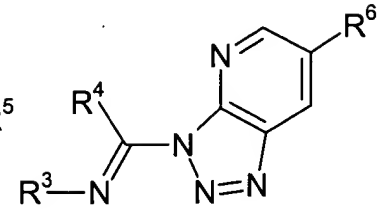
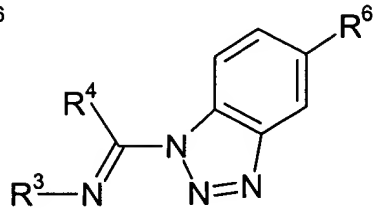
n is an integer between 2 and 6.

2. (Original) The process of claim 1 wherein the monomer of the formula $RCH=CHR^1$ is selected from ethylene, propylene, 1-butene, 1-hexene, and 1-octene.

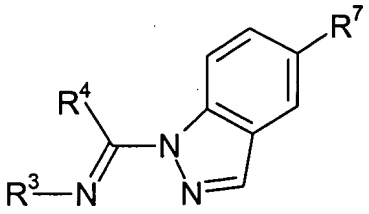
3. (Original) The process of claim 1 wherein the group 8-10 transition metal is nickel.

4. (Original) The process of claim 3 wherein a Lewis acid is used, and said Lewis acid is methylaluminoxane.

5. (Original) The process of claim 4 wherein the ligand of formula **VI** is selected from:

and



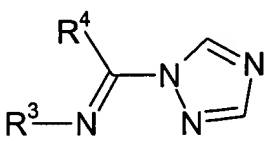
wherein R^3 is hydrocarbyl or substituted hydrocarbyl;

R^4 is H, hydrocarbyl, substituted hydrocarbyl, or silyl;

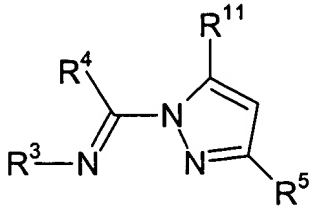
R^5, R^6 and R^{11} are independently H, hydrocarbyl, or substituted hydrocarbyl;

R^7 is H, hydrocarbyl, substituted hydrocarbyl, or NO_2.

6. (Original) The process of claim 5 wherein the ligand of formula **VI** is selected from:

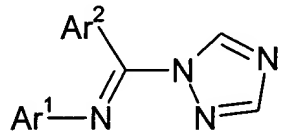


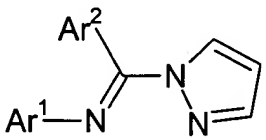
and



wherein R^3 is hydrocarbyl or substituted hydrocarbyl;
R^4 is H, hydrocarbyl, substituted hydrocarbyl, or silyl; and,
R^5 and R^{11} are independently H, hydrocarbyl, or substituted hydrocarbyl.

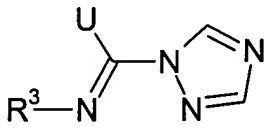
7. (Original) The process of claim 6 wherein the ligand of formula **VI** is

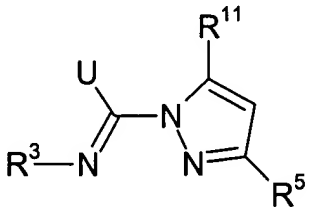


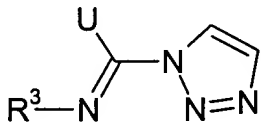
or


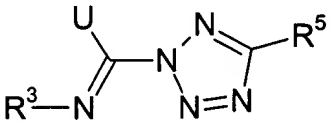
wherein Ar^1 is 2,6-dimethylphenyl or 2,6-diisopropylphenyl; and,
Ar^2 is phenyl or 1-naphthyl.

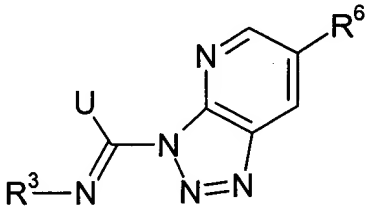
8. (Original) The process of claim 4 wherein the ligand of formula **XII** is selected from:

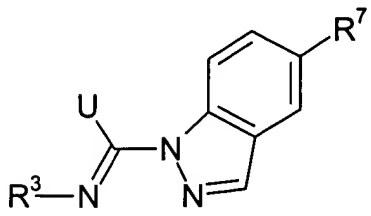


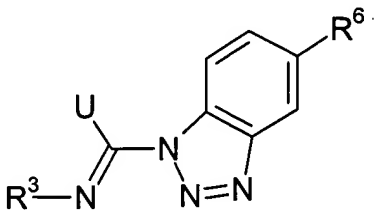










and


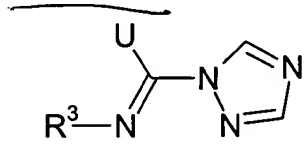
wherein R^3 is hydrocarbyl or substituted hydrocarbyl;

U is $-OR^{10}$, $-SR^{10}$, $-SeR^{10}$ or $-NR^{10}R^8$, wherein R^{10} and R^8 are each independently selected from H, hydrocarbyl, substituted hydrocarbyl, or silyl, and in addition R^{10} and R^8 may collectively form a ring with nitrogen;

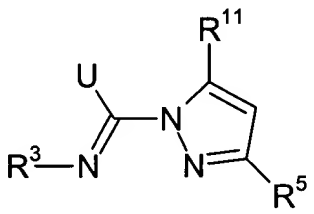
R^5, R^6 and R^{11} are independently H, hydrocarbyl, or substituted hydrocarbyl;

R^7 is H, hydrocarbyl, substituted hydrocarbyl, or $-NO_2$.

9. (Original) The process of claim 8 wherein the ligand of formula **XII** is selected from:



and

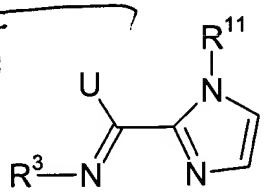
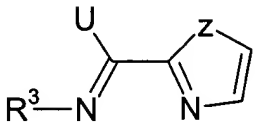
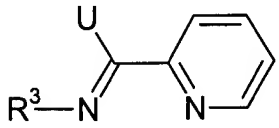
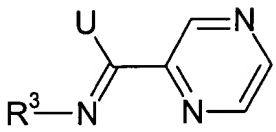


wherein R^3 is hydrocarbyl or substituted hydrocarbyl;

U is $-OR^{10}$, $-SR^{10}$, $-SeR^{10}$ or $-NR^{10}R^8$, wherein R^{10} and R^8 are each independently selected from H, hydrocarbyl, substituted hydrocarbyl, or silyl, and in addition R^{10} and R^8 may collectively form a ring with nitrogen;

R^5 and R^{11} are independently H, hydrocarbyl, or substituted hydrocarbyl.

10. (Original) The process of claim 4 wherein the ligand of formula **IX** is selected from: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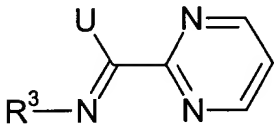


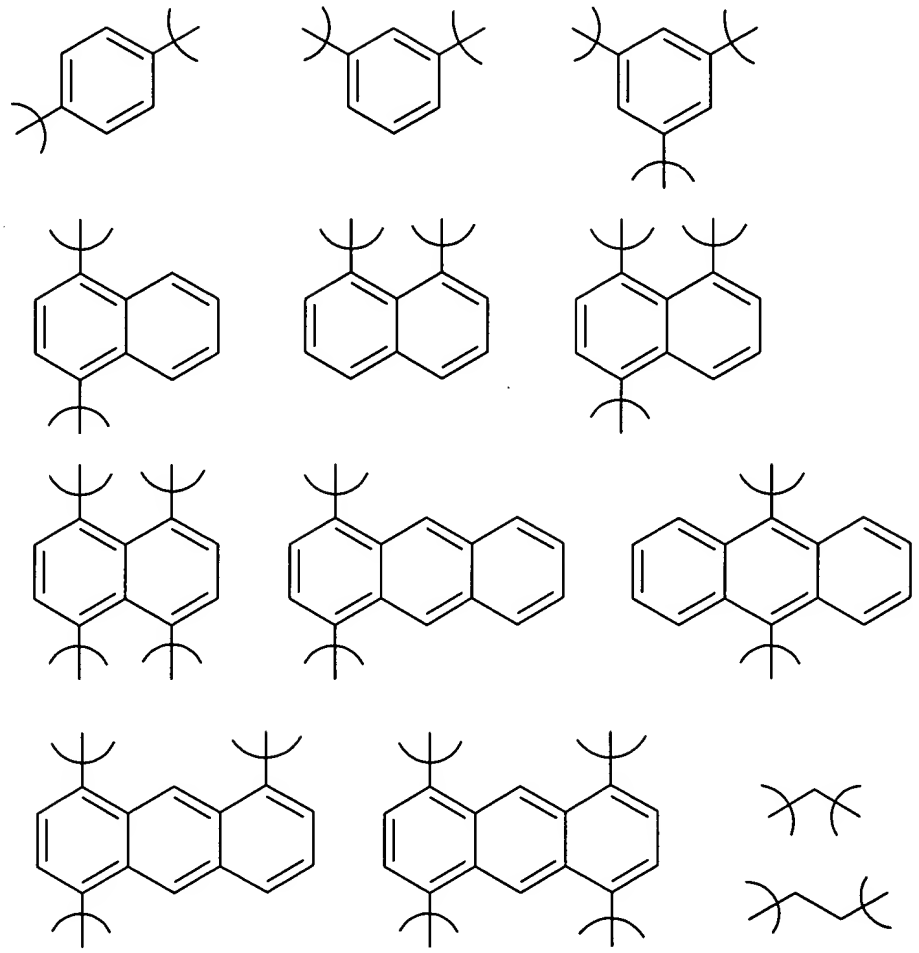
wherein R^3 is hydrocarbyl or substituted hydrocarbyl;

R^{11} is hydrocarbyl, or substituted hydrocarbyl;

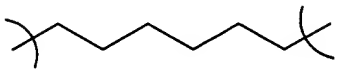
U is $-OR^{10}$, $-SR^{10}$, $-SeR^{10}$ or $-NR^{10}R^8$, wherein R^{10} and R^8 are each independently selected from H, hydrocarbyl, substituted hydrocarbyl, or silyl, and in addition R^{10} and R^8 may collectively form a ring with nitrogen; and

Z is oxygen or sulfur.

11. (Original) The process of claim 4 wherein the ligand is of formula **XXII** and Ω is selected from:

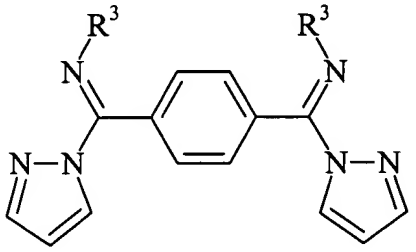


and

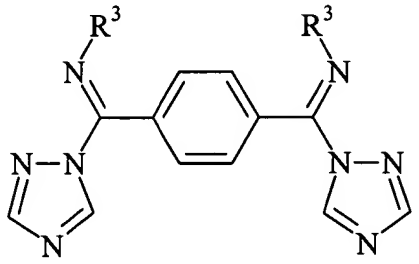


.

12. (Original) The process of claim 11 wherein the ligand of formula **XXII** is selected from :



and



wherein, R^3 is 2,6-disubstituted phenyl.

13. Cancelled.
14. Cancelled.
15. Cancelled.

13 ~~16~~. (Original) The process of claim 4 wherein the polymerization is conducted in an inert solvent.

14 ~~17~~. (Original) The process of claim 5, 8, 10 or 11 wherein the polymerization is conducted in an inert solvent.

15 ~~18~~. (Original) The process of claim 4 wherein the transition metal olefin polymerization catalyst system is attached to a solid support.

16 ~~19~~. (Original) The process of claim 5, 8, 10, or 11 wherein the transition metal olefin polymerization catalyst system is attached to a solid support.

17 ~~20~~. (Original) The process of claim ~~18~~ 15 wherein the polymerization is conducted in an inert solvent.

18 ~~21~~. (Original) The process of claim ~~19~~ 16 wherein the polymerization is conducted in an inert solvent.

19 ~~22~~. (Original) The process of claim ~~18~~ 15 wherein the polymerization is conducted in the gas phase.

20 16
23. (Original) The process of claim 19 wherein the polymerization is conducted in the gas phase.

Claims 24-44 cancelled.